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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,667	07/17/2003	Sarah Rose Hertel	129491	2051
7590	06/16/2006		EXAMINER	
Dean D. Small Armstrong Teasdale LLP Suite 2600 One Metropolitan Square St. Louis, MO 63102			KISH, JAMES M	
			ART UNIT	PAPER NUMBER
			3737	
DATE MAILED: 06/16/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/621,667	Applicant(s) HERTEL ET AL.	
	Examiner James Kish	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/27/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/17/03, 1/3/05</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 10, 14, 16-17, 21, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 10, 14, 16-17, 21, and 24 all state a step of "execute if..." However, all of said claims fail to point out and distinctly claim what exactly is being executed.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 9-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Limitations in claim 9 include a computer program configured to modify image data that has already been obtained from multiple imaging modalities. There are no positive steps of obtaining images. The previously acquired data is manipulated without any functionality.
3. Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. Claim 13 is only determining whether the organ is ready for CT

Art Unit: 3737

imaging and whether or not imaging has occurred. No further actions are taken based on these determinations.

4. Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. "A computer programmed to:" has been interpreted by the Examiner as meaning --A computer-readable medium encoded with a program configured to instruct a computer to: --. Correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 9, 19, and 23 is rejected under 35 U.S.C. 102(e) as being anticipated by Townsend et al. (US Patent No. 6,490,476). Townsend discloses a combined PET and X-ray CT tomography device for imaging of any organ in any part of the body (column 9, line 65 through column 10, line 3). The device can then fuse the images together (column 2, lines 63-67). A display is included to display the 3-D volume data set. The 3D display computer provides the user with the ability to explore the functional anatomy of the human body fully in three dimensions (column 14, lines 31-43).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-8, 10-18, 20-22, and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Townsend et al. (US Patent No. 6,490,764) in view of Kaufman et al. (US Patent No. 5,971,767). Townsend discloses a combined PET and X-ray CT tomography device for imaging of any organ in any part of the body (column 9, line 65 through column 10, line 3). The device can then fuse the images together (column 2, lines 63-67). A display is included to display the 3-D volume data set. The 3D display computer provides the user with the ability to explore the functional anatomy of the human body fully in three dimensions (column 14, lines 31-43). While Townsend does not describe in detail the use of the device for preparation and imaging of the colon, Kaufman teaches a system and method for generating a 3D visualization image such as an organ and exploring the image using a guided navigation system which allows the operator to travel along a flight path and to adjust the view to a particular portion of the image of interest in order, for example, to identify polyps, cysts or other abnormal features in the visualized organ (column 2, lines 36-44 and Abstract). The predefined flight plan is based on a centerline of the organ of interest (column 3, lines 12-14 and column 6, lines 23-25). As can be seen from Figure 1, the first step (101) is to prepare the organ, if necessary, for the imaging procedure. In the case of the colon, air or CO₂

Art Unit: 3737

can be forced into the colon (column 4, lines 23-34). In step 103-105 the object is scanned, converted to 3D and then the operator can select a particular portion of the organ to examine. The physician can view a 2D slice overview map to indicate the section to be examined (column 5, lines 24-25). See column 5, lines 34-60 for descriptions of steps 107 and 109 of Figure 1. Also see column 6, lines 26-31. See Figure 14 and column 14, lines 21-67 for detailed descriptions of the system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the dual imaging modality system of Townsend in place of a single imaging modality as disclosed by Kaufman because PET has the ability to add unique functional information to the images obtained by conventional anatomical-based modalities, such as CT, and PET allows discrimination of benign from malignant causes of lesions (column 1, lines 27-44).

With respect to claim 4, even though the flight plan is predefined, the operator can manually override the "auto-pilot" feature and navigate the "camera" to any desired location within the 3D visualization of the organ, as described in Kaufman.

With respect to claim 7, see Figures 2a-b of Townsend.

Conclusion

Other Relevant Prior Art:

Mick et al.	5,261,404
Coin	5,458,111
Liebig et al.	5,672,877
Vining	5,782,762
Shahidi	6,167,296
Fukunaga	6,346,940
Nutt et al.	6,449,331
Johnson et al.	6,928,314
Declerck et al.	7,020,313

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Kish whose telephone number is 571-272-5554. The examiner can normally be reached on 8:30 - 5:00 ~ Mon. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMK


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